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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,013	07/10/2001	Wei-Sing Chu	2313-117	8860

6449 7590 12/03/2004

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[REDACTED] EXAMINER

CHIN, CHRISTOPHER L

ART UNIT	PAPER NUMBER
[REDACTED]	1641

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/901,013	CHU, WEI-SING	
Examiner	Art Unit		
Christopher L. Chin	1641		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10/7/04.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 80-83 and 92-96 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 80-83 and 92-96 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/7/04 has been entered.

Claim Rejections - 35 USC § 112

2. Claims 80-83 and 92-96 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 80 is vague and confusing because it is not clear as to how the sample or tissue is related to the robotic system. Unlike other components that may comprise a robotic system, such as an arm, or claw, or controller, a sample or tissue are not components of robots or robotic systems and thus is not clear as to how a sample or tissue can be a limitation/component of a robotic system.

Claim 92 is also vague and confusing for the reasons set forth above with respect to claim 80.

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3. Claims 92-96 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification, as originally filed, does not provide support for a "system of robotics" as recited in new claims 92-96. There is no literal support for such a system in the originally filed specification. Furthermore, this phrase suggests a system with a plurality of robots, i.e. "robotics", which also is not supported by the originally filed specification. It is noted that Applicants have not pointed to any support in the specification for this phrase.

4. Claims 80-83 and 92-96 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification, as originally filed, does not provide adequate written description of the robotic system or system of robotics recited in claims 80-83 and 92-96. Page 9 of the instant specification discloses that Figure 7 represents a system showing four solutions, each in a different container. The complete system of tissue, ultrasound generator, transducer, sensors, and CPU can be moved from one container

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to the next. The robotic system that controls the movement of the components in Figure 7 is not shown. Figures 6A and 6B show block diagrams of the robotic system that is to be used in Figure 7. However, there is no specific description of the components that comprise the robotic system of Figures 6A and 6B in the instant specification. Example 7 on page 29 of the specification discusses the sensors, transducers, CPU, etc shown in Figures 6A and 6B but there is no detailed disclosure of the robotic system that is required to move sample or tissue and an ultrasound transducer as recited in claims 80-83 and 92-96.

In response to this rejection, Applicants argue that those skilled in the art would recognize from the description of the robotic system at page 29, lines 8-18 of the specification as originally filed the particular components that might comprise robot (100). Applicants go on to say that 35 USC 112 first paragraph requires only that a specification enable those skilled in the art to make and/or use the invention. There is no requirement in 35 USC 112 to draft a specification as a step-by-step tutorial for every inexperienced novice to practice the invention. Robots in general and robotic systems in particular were well known to those of skill in the art, such as engineers and technicians, at the time the specification was drafted. Applicants also cite a number of patents having claims reciting robots or robotic systems and provide a number of references showing examples of robots and robotic systems readily available to those of skill in the art in 1999, as evidence of the familiarity of those of skill in the art with robots in general, and robotic systems in particular. Applicants submit that including a description of components comprising a robot or the means by which robots are controlled is

peripheral to the description of the invention, and would constitute needless extraneous details that were available already to those of skill in the art when the specification was drafted.

Applicant's arguments have been considered but are not convincing.

The first paragraph of 35 U.S.C. 112 requires that the "specification shall contain a written description of the invention." The written description requirement has several policy objectives. "[T]he essential goal of the description of the invention requirement is to clearly convey the information that an applicant has invented the subject matter which is claimed." *In re Barker*, 559 F.2d 588, 592 n.4, 194 USPQ 470, 473 n.4 (CCPA 1977). Another objective is to put the public in possession of what the applicant claims as the invention. See *Regents of the University of California v. Eli Lilly*, 119 F.3d 1559, 1566, 43 USPQ2d 1398, 1404 (Fed. Cir. 1997), cert. denied, 523 U.S. 1089 (1998). The written description requirement of the Patent Act promotes the progress of the useful arts by ensuring that patentees adequately describe their inventions in their patent specifications in exchange for the right to exclude others from practicing the invention for the duration of the patent's term. To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. See, e.g., *> Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1319, 66 USPQ2d 1429, 1438 (Fed. Cir. 2003); *< Vas-Cath, Inc. v. Mahurkar*, 935 F.2d at 1563, 19 USPQ2d at 1116.

Contrary to Applicant's arguments, the instant specification does not provide an adequate written description of the claimed invention that would convey to one of ordinary skill in the art that Applicants have invented the claimed subject matter and have possession of the claimed invention and thus fails to satisfy the written description requirement of 112 first paragraph. The claimed robotic system (claim 80) comprises a robot, a sample or tissue, and an ultrasound transducer. The system of robotics (new claim 92) comprises a sample or tissue, an ultrasound transducer, and a means for moving the sample or tissue and ultrasound transducer from a first reaction chamber to a second reaction chamber. The only means disclosed in the instant specification for moving the sample or tissue and ultrasound transducer is a robot. Accordingly, the means for moving recited in claim 92 is limited to a robot. The robot in claims 80 and 92 is critical to the claimed invention since it carries out the essential function of moving the sample or tissue and ultrasound transducer. The lack of any detailed disclosure of the robot brings into question whether Applicants invented the claimed invention or even had possession of the claimed invention. While it may be true that various robots are known to those of ordinary skill in the art, it is still incumbent upon the specification to disclose the particular robot that is in the claimed invention that performs the function of moving sample or tissue and an ultrasound transducer. The patents and other articles provided by Applicants all show various types of robots but none are shown to be the particular robot that is recited in the claimed invention and can perform the function(s) recited in the instant claims.

Applicant's contention that "including a description of components comprising a robot or the means by which robots are controlled is peripheral to the description of the invention, and would constitute needless extraneous details that were available already to those of skill in the art when the specification was drafted" is noted. However, the robot is considered an essential and/or critical component of the claimed invention. Thus, its disclosure in the specification is not "peripheral to the description of the invention" nor would it constitute "needless extraneous details".

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 80-83 and 92-96 are rejected under 35 U.S.C. 102(e) as being anticipated by Salcudean et al.

For the purposes of this art rejection, the recitations of "a sample or tissue" in claims 80 and 92 are not given any patentable weight in view of the 112 second paragraph rejection above.

Salcudean et al (U.S. Patent 6,425,865) discloses a robotically assisted medical ultrasound system. The ultrasound probe is positioned by a robot arm under shared

control of an ultrasound operator and a computer. The system comprises a robot arm design suitable for diagnostic ultrasound, a passive or active hand-controller, and at least one computer system (i.e. a central processing unit) to coordinate the motion and forces of the robot and hand-controller as a function of operator input, sensed parameters, and ultrasound images (col. 2, lines 34-67). The computer can be programmed to hold the ultrasound transducer at a fixed position on the human body and the operator can be permitted to control orientation of the ultrasound transducer (col. 3, lines 36-42). The computer can be programmed to perform mixed modes of operation wherein the operator shares control of the position of the ultrasound transducer probe along certain axes with taught control programmed into the computer and a tracking mode along a plane is programmed in the computer while the operator controls the movement of the ultrasound transducer along the remaining degrees of freedom (col. 4, lines 15-25). Ultrasound image features can be processed by the computer to determine the optimum orientation of the transducer and provide an automatic orientation control signal component which can be added to the attitude control input from the operator's input device (col. 4, lines 33-37).

With respect to claims 82 and 93, the robot arm disclosed in Salcudean et al is capable of moving the ultrasound transducer from one location to another and thus satisfies the functional limitation recited in claims 82 and 93.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher L. Chin whose telephone number is (571) 272-0815. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher L. Chin

Christopher L. Chin
Primary Examiner
Art Unit 1641

11/17/04